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# NOR' WEST MINER

EDMONTON, ALBERTA

*A monthly Devoted to Northern Mining Development in the Yellowknife, Great Bear and Great Slave Lakes, Goldfields, Alberta and Northern B.C., the Tourist and Game Hunting Attraction of Alberta.*

Vol. VIII.  
No. 2

APRIL  
1940

25c A Copy

## OIL

## Black Gold of Alberta



\$2.00 A Year

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# ELECTRICAL POWER SERVES the NATION

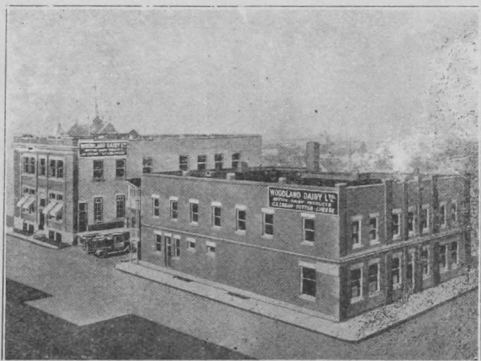
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Efficient, Economical  
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# THE NOR' WEST MINER

A monthly devoted to Northern Mining Development in the Yellowknife, Great Bear and Great Slave Lakes, Goldfields, Alberta and Northern B.C. Mining districts, also the tourist and big game attractions of Alberta.

Correspondence solicited from all interested. Subscription, \$2.00 a year, Post free. Advertising Rates on application. Address, 9834 90th Avenue, Edmonton, or Box 323 Edmonton, Alberta. Phone 31968.

## SAYS THE MINER . . .

The official statements in this issue on the qualities of tar sand products for road surfacing make interesting reading. Edmonton now has the opportunity of showing Alberta and the rest of Canada that when local products are available it will use them and so keep the much needed war dollars at home.

\* \* \*

An excellent chance to test out the already much tested tar sands presents itself to Edmonton officials through the bus pounded McDougall and Scona Hills, where the concrete surface has to be repaired. A Tar sand surfacing will put it into shape at less cost and also assure a real road surface.

\* \* \*

Some of our official friends blame salt for the deterioration of concrete paving as laid in Edmonton. It is true proper engineering specifications insist that salt shall not be mixed in wet concrete to prevent it freezing, but to extend such an argument to spreading it on the surface as a thawing agent is so absurd as to make one wonder at the intelligence of officials who allow such an excuse to go unanswered. Containers for the settling of salt as it is manufactured are almost invariably built of cement as it is one of the few materials that salt does not corrode.

\* \* \*

Take down the calendar and draw a red ring around July 1st next. This date marks an epoch in Canadian history for it is on that day when Eastern and Western Canada will be officially linked up by an all Canada Highway.



**Head Office:**  
Yellowknife  
N.W.T.

●  
Edmonton  
Representative  
107 Reyillon  
Bldg.

●  
**Branches:**  
Fort Smith,  
N.W.T.  
Waterways,  
Alta.

## FREIGHT BY BOAT



## NAVIGATION OPENS MAY 9th

First boats for northern points leave Waterways on May 9th next. From this date a weekly service of boats run to Fort Fitzgerald. First boat to connect with lower Mackenzie River points and the Arctic leaves Waterways on 13th June.

Commencing June 8th a weekly service will be maintained between Waterways and Goldfields. Also from Waterways to Yellowknife. Boats leave Waterways for Points on the eastern end of Lake Athabasca on June 14th. Fort Simpson to Fort Liard and Fort Nelson on July 2nd. Boats leave Fort Smith for Great Slave Lake points, namely Fort Resolution and Rocher River June 2nd. Snowdrift August 11th. Fort Rae June 16th. The above schedules apply to Hudson Bay Company boats. For further particulars write Mackenzie River Transport, Hudson Bay Co. Edmonton, Alberta. or Waterways, Alberta.

Northern Transportation Company schedule is as follows: —

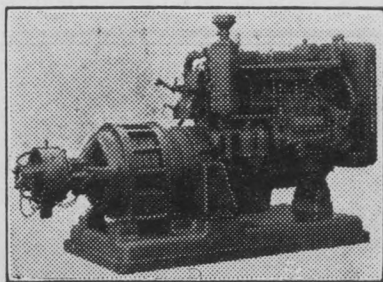
Waterways to Fort Fitzgerald, first boat May 9th and weekly thereafter during season. From fort Smith to

Outpost Island and Yellowknife first boat June 12th continuous service thereafter. From Fort Smith to Aklavik June 9th and August 17. From Fort Smith to Fort Norman and intermediate points, First boat June 9th and every eighteen days after. From Fort Norman to Port Radium, Great Bear Lake a continuous service will be run from July 15th. For further particulars address Northern Transportation Co. Ltd., McLeod Building, Edmonton or at Waterways or Fort Fitzgerald, Alberta.

Warehouses for the reception of freight by Hudson Bay Co. open at Waterways on April 24th and early application should be made for space reservations, for first sailings and also for those in September. Freight must reach Waterways one week prior to sailing date for upper river points and must reach Fort Smith three weeks prior to sailing date for lower Mackenzie points. Northern Transportation Co. warehouse, Waterways is now open and early applications for space on boats should be made, to ensure early delivery.

## CATERPILLAR DIESEL GENERATOR SETS

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# The Banff-Jasper Highway Opens July 1st

The official opening of the Banff-Jasper Highway, scheduled for Dominion Day, July 1, 1940, makes particularly timely a new booklet issued by the National Parks Bureau of the Department of Mines and Resources, Ottawa. Bearing the title "The Banff-Jasper Highway," the booklet is profusely illustrated and describes in text and picture the new mountain highway which will unite two of Canada's greatest national parks and open up to motorists a region formerly impenetrable except by saddle-horse and pack-train.

The Banff-Jasper Highway provides a new channel for tourist travel, not only for Canadians, but for the people of the United States, and all others who come to share it. From the luxury of the modern motor car it reveals breath-taking majesty in unbroken but ever-changing panorama. The highway not only commands much of the finest mountain scenery in the world, but because its entire length lies in national parks, which are wild life sanctuaries, the opportunity to see thenative fauna of the district, from the sure-footed mountain goat to the strictly unsocial grizzly bear, is greater than perhaps in any similar area elsewhere. The altitude is high enough to provide the brilliance and exhilaration associated with the mountains, and yet not so high as to present a problem to those of normal health and physique. Everywhere lies the wildness, unchanged and unspoiled, yet nowhere is the visitor an hour's drive from the comforts and resources of modern civilization.



Mountain highways have always possessed a peculiar fascination for mankind. The sense of penetrating the unknown and of overcoming obstacles which for ages have been barriers to human progress arouses in many hitherto unrevealed emotions. The Banff-Jasper Highway is no exception and its appeal to the traveller, the nature student, and the lover of the out-of-doors is universal. In them it unites not merely parks, but peoples and nations.

## Attention . . .

### MINERS, PROSPECTORS and TRAPPERS

Write or wire Johnstone Walker Limited, Edmonton, for anything you may need and if we haven't it in stock we will procure it for you as quickly as possible and at lowest cost. We carry a complete stock of "Woods" Sleeping Robes, Parkas and Heavy Winter Underwear, Shirts, Coats, Footwear, etc.

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ing engineer went ahead to find out where the bear was going and the promotor? He started back to town to fetch a truck to load the bear on when it was shot.

## **EDMONTON'S LUMBER HEADQUARTERS**

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THE YELLOWKNIFE — GREAT SLAVE and GREAT BEAR  
LAKES and the LOWER MACKENZIE RIVER.

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**300 Moser Ryder Bldg., Edmonton Alta. and Fort Smith, N.W.T.**



## THE GRIMSHAW WINTER ROAD

Many claims are being made in various quarters to the "honor of having discovered the Grimshaw Great Slave winter Road", which despite past opposition from many quarters, is now heralded by the Journal and other papers as having proved its value already. It might be therefore as well to state that the first mining man to even mention this route as a possible valuable connection with northern mining development was Colonel C. D. H. MacAlpine of Toronto. The Colonel was mainly responsible for the activities of Dom. Explorers in 1929 and 1930 and it was he who suggested either a railway extension to Great Slave Lake or a truck road. He backed up his opinions by getting busy at Ottawa and elsewhere, but the depression totally eliminated any chance of getting action from 1930 on. The Peace River people kept up a constant agitation with the aid of its local press and parliamentary representation at both Ottawa and Edmonton, together with the Nor West Miner. In 1937 real action was obtained when the Highway Traffic Board started to consider commercial freighting over the road to be, due to an application by the Wilson Motor Distributing Co. in connection with the same. At the same time an offer was made to both Governments by private interests to cut the necessary winter road in exchange for a twenty one year lease of right of way between the two points. This was refused by both governments. The next stage was the interesting of officials at both Ottawa and Edmonton in its possibilities which led up to the arrangement whereby both Governments participated in the cost of the present road and the work has proceeded to completion. Every credit should be given both the Hon. Mr. Fallow, Minister of Public Works and Mr. Roy Gibson of the North West Territories Council at Ottawa, for both took an extreme interest in its feasibility.

However, the winter road is only the first stage, for all mining men are convinced that the turning of the present cut grade into a proper gravelled highway is only a matter of time. The

cost is estimated at around \$500,000, which would be quickly recovered in freight cost savings. Gravel and other materials are readily available along the route, so it is hoped that 1940 will see a start made for its eventual completion.

## B. E. A. R. MINE HAS GOOD PROSPECTS

"Development is proceeding on the Giant Yellowknife and some 60 tons of cobbled ore of high grade values has been shipped out", says Dr. C. E. Camsell, Deputy Minister of Mines at Ottawa. He adds that although this property can be considered as still being a prospect, encouraging results are being obtained.

## THOMPSON LUNDMARK

Commenting upon the Thompson Lundmark property, Dr. C. E. Camsell stated that this mine is the most important of the 1938 discoveries, adding the the original surface showings are considered as being the most spectacular ever discovered in Canada. A shaft has been sunk, he says, to a depth of 300 feet on the Kim vein and another shaft is going down on the Frazer vein. Some of the ore is reported as going as much as five ounces to the ton in gold.

## WILL REPAY COST IN 1940

President Blaylock of the C. M. & S. in annual report states that it is expected that early in 1940 all development and other costs in connection with the operation of the Con Mine will have been recovered out of the profits of operation. Average grade of ore being mined is \$0.82 per ton.

## KNOCKERS STAY AT HOME

If anyone has a doubt concerning the potentialities of the Yellowknife mining field, the recent report of the Cons Mining and Development Co. Ltd. on its Yellowknife properties should do much to dispel such. In very few mining camps has a property such as the Con repaid the whole cost of development in less than two years of operation.



## CON REPORT FAVORABLE TO NORTH

Consolidated Mining and Smelting Co's annual report in commenting upon the Con and Rycon properties, Yellowknife, states that ore reserves at the Con were increasing materially and the outlook is promising for the Rycon. Ptarmigan property has an indication of tonnage as good as the Con, although grade is slightly lower. The Box Mine at Lake Athabasca has been operating at a profit each month and it is planned to increase mill capacity to double so that mining costs can be reduced. Ore reserves developed or indicated amount to 2,328,000 tons averaging 0.061 oz. gold per ton, with an additional 264,000 tons averaging 0.091 per ton and over 10 million tons assaying 0.03 to 0.04 per

ton. Gold production mostly from the Yellowknife amounted to over \$900,000 in 1939 as against \$226,000 in the previous year.

## CLAIMS IN GOOD STANDING

A proof of the confidence that many mining interests have in the Yellowknife and other northern mining fields is the fact that 7,670 claims are still in good standing as regards Government records. Of these some 5000 are in the Yellowknife ditrit.

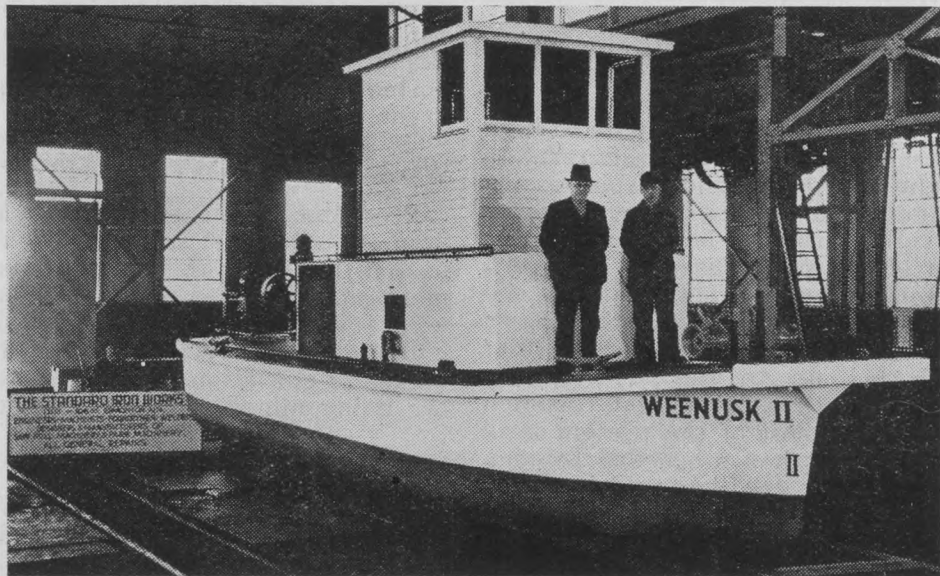
## RYCON PROSPECTS GOOD

C. M. & S. Annual report states that while the Rycon has not had as much development as the Con, nor shown as much promise, sufficient high grade ore has been found to establish a reasonable chance of making development successful.

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# Bituminous Sands of Northern Alberta

**ED. NOTE—**In this story Messrs F. K. Beach and J. L. Irwin of the Department of Lands and Mines, Provincial Government of Alberta, describe the enormous oil and bitumen resources of Northern Alberta. It officially places the oil reserves contained in Alberta Tar Sands at 100,000,000,000 barrels. The United States Geological Survey has estimated the proven reserves of oil well fields of the world at 24,465,000,000 barrels. Here is the picture.

The first mention of the vast bituminous sand deposits of northern Alberta was made by Peter Pond in 1788. Five years later they were observed by Sir Alexander Mackenzie.

This far-away period conjures up the names of other great explorers — first pioneers of that immense and wealthy region which was some day to become Alberta—Edward Umfreville, Peter Fidler and David Thompson—names which carry a special significance and which occupy a special place in Canada's history.

The bituminous sands of northern Alberta represent one of Alberta's most valued possessions. The reports of engineers dealing with these vast deposits, their present accessibility, methods of recovery and analyses of products to be obtained, carry a real interest.

## Sights of Interest

There are many sights of interest for travellers in northern Alberta, the most interesting of all being without question the spectacle of the great cliffs and slopes of these bituminous sands along the banks of the Athabasca River. The exposures, some of which attain a height of 200 feet and more, are noticeable for 100 miles along the river and extend for a considerable distance up its tributary streams.

Fort McMurray represents the focal point for these deposits. From this centre they extend 65 miles down the Athabasca, where they terminate against recent lake deposits, 65

miles or more east up the Clearwater, the eastern limit not yet being mapped and 40 miles south-west up the Athabasca where they pass beneath the river bed. In the vicinity of Pelican Rapids about 80 miles farther south up the Athabasca, wells have penetrated the sands and found them saturated as at the outcrop though apparently much thinner.

## An Area of 10,000 Sq. Miles

A point of interest in connection with the general area is that a line drawn through the Pelican wells to the outermost outcrop circumscribes an area of some 10,000 square miles. If the saturation continues west from the outcrop for 80 miles (the distance from the outcrop to the Pelican wells) the saturated area would cover about 20,000 square miles. In addition to this, should the saturation extend another 20 miles south of Pelican and west from the outcrop more than 80 miles, the area may be increased to 30,000 square miles or even more. It is evident, therefore, that the saturated sands cover an area of at least 10,000 square miles, with the probability of this figure being increased to 20,000 or 30,000.

Out of this vast accumulation of deposit, the area in which the sands are at present accessible for mining is probably less than 20 square miles estimated to contain about one billion barrels of oil.

## Cliffs of Bituminous Sands

The bituminous sands, as noticed on the

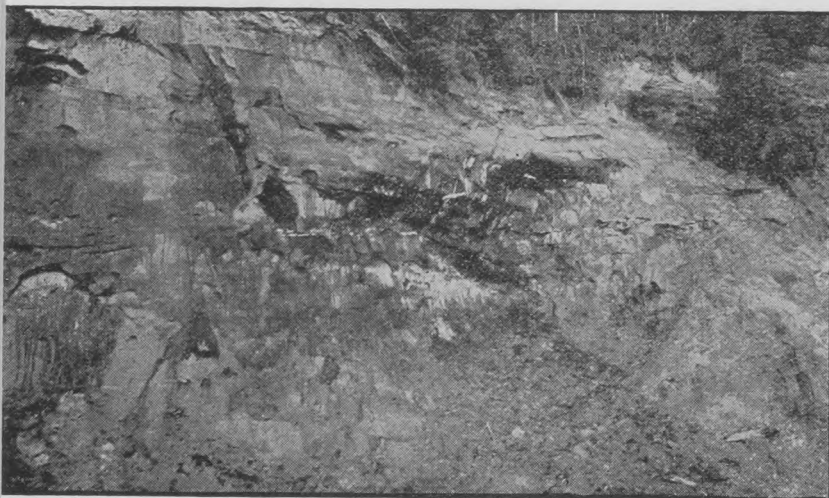
## KEEN EYESIGHT . . .

Is a valuable asset in all types of work. It may be that your vision will be improved by a change in glasses or by starting to wear them if you've never worn them before. Have your eyesight tested now! Two fully qualified, registered optometrists are at your service in EATON'S Optical Parlors. Only the most modern equipment is used. Make an appointment tomorrow!

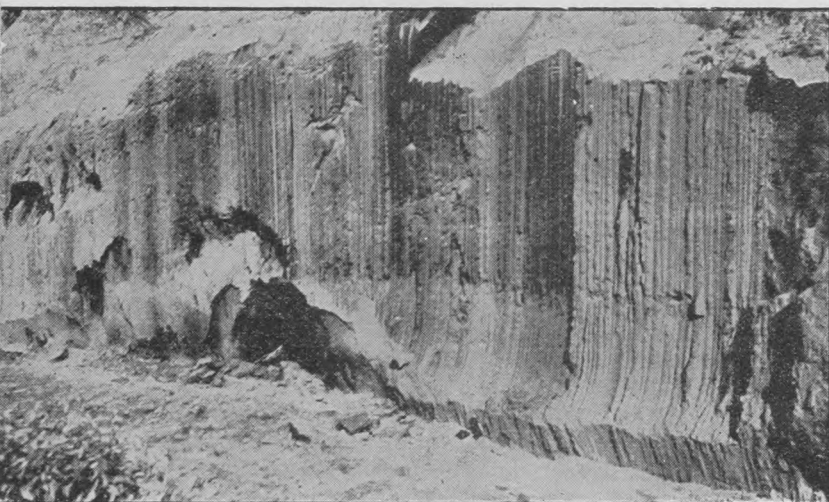
—Optical Parlors, Second Floor.

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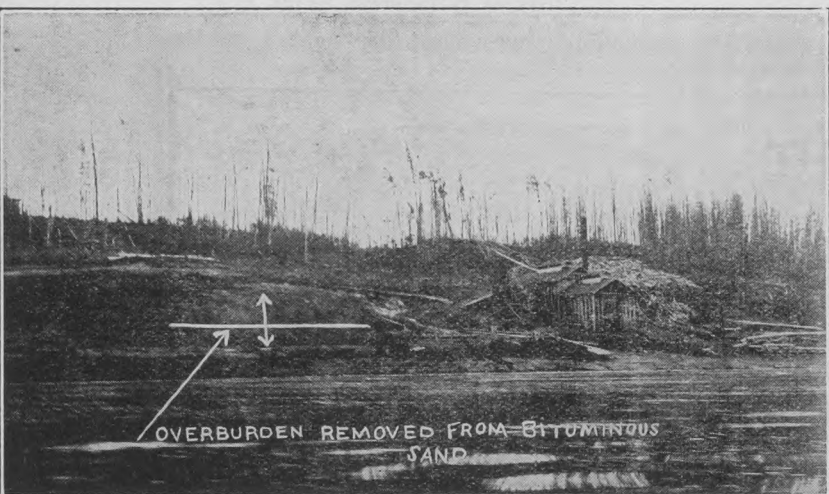




Tar Sands in the Rough



Huge Cliffs of almost pure Oil Sands



Tar Sands Exposed Ready for Mining

## 10,000 Squares of Barrels a

Pictures show wlg o  
conducted.

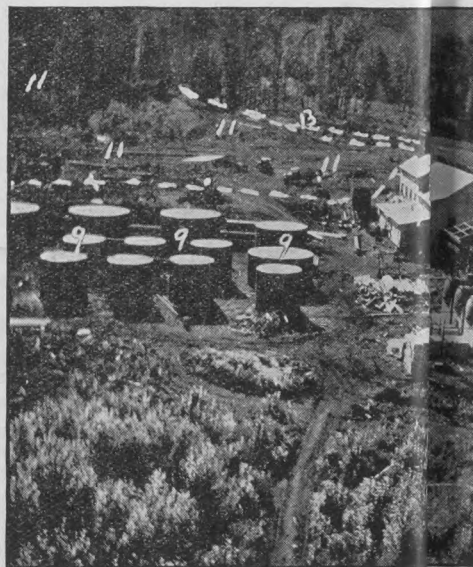
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International Bituar  
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Many roads, sidewa  
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The Provincial Go of  
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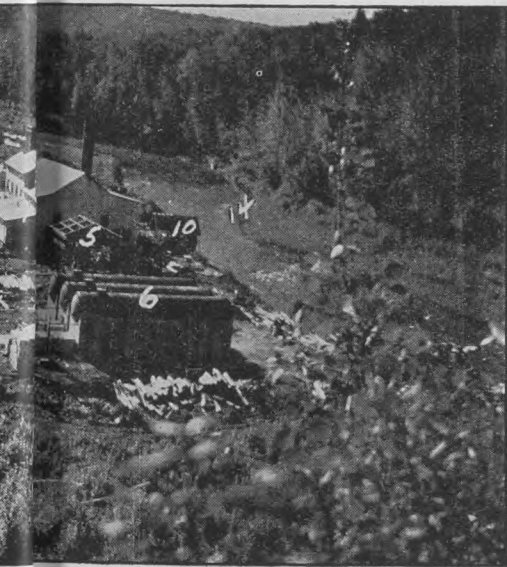
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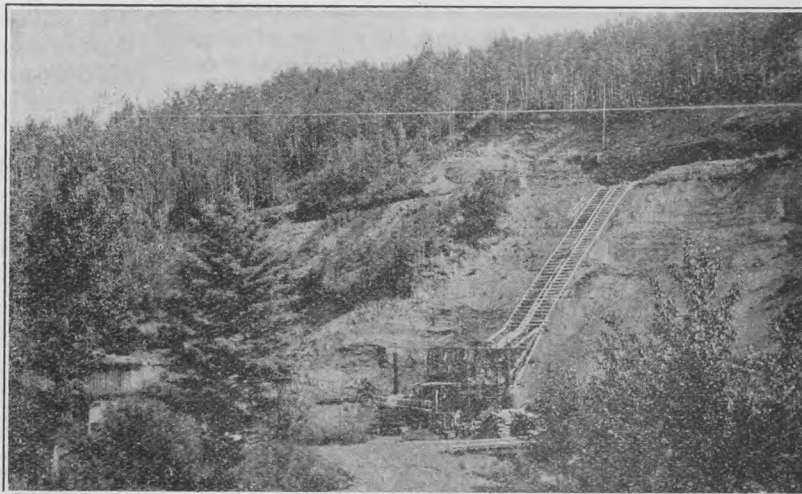
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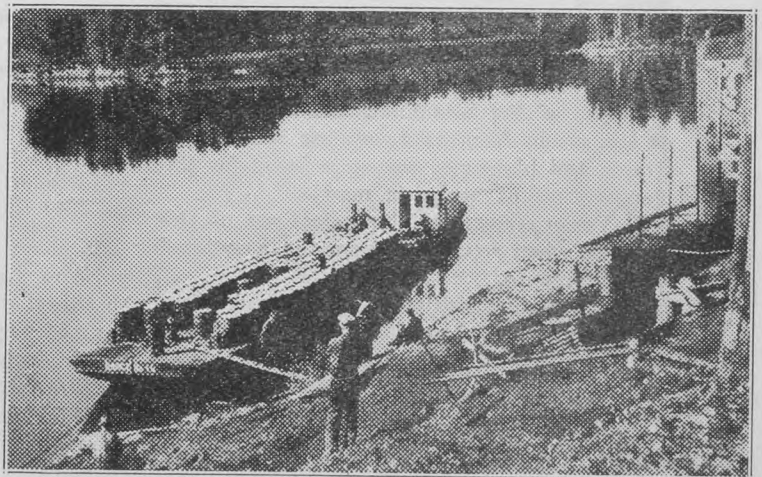
er Abasand Oils Ltd., on Horse River  
mberta



Removing Overburden from Bituminous Sands



McMurray Oil and Asphaltum Oils Ltd.  
at Draper near Waterways.



Loading Oil for Down River Points



face of the cliffs, are from dark brown to black in colour. Occasional streaks of bitumen can be seen in some sections of the face where small quantities have come to the surface and slowly worked down and the bedding of the formation is noticeable. A strong asphaltic smell emanates from the exposed beds. A distinction presents itself between the bands of richly impregnated sands which stand out in bold cliffs and the lean beds and layers of silt and clay form gentler slopes.

Where the sand is well impregnated the beds form a very compact material. While the surface can be easily picked into with a sharp pointed tool, a heavy blow makes a remarkably small impression. A lump of the deposit after removal is found to be soft, yielding to pressure and breaking down into a disintegrating mass.

On close inspection the product is shown to be an aggregation of fine sand particles each of which is enveloped by a film of a soft, sticky bitumen. The sand is principally composed of quartz with small quantities of mica and other products.

#### **Dominion Government Notes of Field**

In the introductory chapter of a report on the area, published in 1926, by Mr. S. C. Ellis of the Mines and Geology Branch, Department of Mines and Resources, Ottawa, the following statements are quoted:—

"The three outstanding features presented by a consideration of the bituminous sands of northern Alberta are:—

(1) That the deposit represents the largest known body of solid asphaltic material.

(2) That the deposit is, as yet (April, 1925) commercially undeveloped.

(3) That practically all asphaltic materials used in Canada are imported from foreign countries.

There are three lines along which commercial development of Alberta bituminous sands may be attempted. These are:—

1. Use of the bituminous sand in a more or less crude form as a wearing surface for streets and highways, and as a basis for the manufacture of asphaltic mastic.

2. Various commercial applications of the bitumen when separated from the associated sand aggregate.

3. Destructive distillation of the crude bituminous sands or of partially purified bitumen with recovery of liquid hydrocarbons."

#### **Provincial Government Confirms the Story**

Another quotation of interest under this

general heading is made from the report, published in 1929, of Dr. K. A. Clark of the Department of Mining Engineering, University of Alberta, which reads as follows:—

"Few have doubted that the immense deposit of bituminous sand in northern Alberta would eventually be turned to practical use and form the basis for industry. There has been considerable uncertainty, however, about the form that development would take. Various uses for the material have been recognized as possible. The raw bituminous sand can be used directly for the preparation of pavement aggregates. The bituminous content of the sands can be extracted and used either as an asphalt, principally for road construction of various types or as a crude oil for manufacture of petroleum products. But so long as these uses were all obviously matters of the future, there was little use of considering them in detail. Everything depends on the turn of events in the realm of economics during the period that had to elapse before bituminous sand development became a real possibility.

The general opinion has been that the use of the bituminous sand itself and of the bitumen extracted from it for pavement and bituminous highway construction would be the use that would first have sufficient practical application to warrant development. Use of the bituminous sand as a source of petroleum products, particularly gasoline, was regarded as a remote possibility. However, advances of great significance have been taking place in technology of the petroleum industry and have changed the outlook in this latter direction. The conversion of heavy oils into high yields of gasoline is now a matter of every day commercial operations. There is no particular technical obstacle in the way of using the bitumen content of the bituminous sands as a crude oil and this use must be placed along with that of the road materials for present consideration. Which offers the best opportunity for commercial development is a matter almost entirely of economics. It is consequently of importance to examine each possible use from this standpoint."

In some of the exposures the saturation is uniform from top to bottom but, generally speaking, the richer beds are at or near the base of the formation. Oil content varies in weight from nothing to 25 per cent with some of the outcrop areas carrying from 100,000 to 125,000 barrels per acre. Others may run even higher.

### **100,000,000,000 bbls of Oil**

With reference to the recovered product in its relationship to the sands, it might be stated that on the basis of 250 tons of sand which has been processed, approximately 175 barrels of crude oil is recoverable, from which 43% is high test gasoline, containing a high octane or anti-knock rating, equal or even superior to processed gasoline, to which ethyl liquid has been added for anti-knock properties, is obtained.

The bituminous sands of northern Alberta have been estimated by the Dominion Mines Branch to contain 100,000,000,000 barrels of oil. The United States Bureau of Mines places the figure at 250,000,000,000 barrels. The United States Geological Survey has estimated the proven reserves of oil well fields of the world at 24,465,000,000 barrels.

On the assumption of these official estimates an amazing conclusion is drawn to the effect that the bituminous sands area of northern Alberta contains on the first estimate just given an oil content which is equivalent to over four times the quantity of the proven reserves of the world's oil fields and on the second estimate to over ten times that quantity.

Mr. Ellis and Dr. Clark, whose statements have been referred to, have over a period of years made extensive studies of these sand exposures, and their published reports, which are given in interesting and elaborate detail, and which contain a wealth of information in maps, topographical sheets, etc., represent a most valuable contribution to scientific research.

### **Many Products Possible**

Products offered by the bituminous deposits at Athabasca are gasoline, tractor and Diesel fuels and asphalt. In addition to these are by-products which would be in demand by special markets dealing in roofing, paint, battery-insulations and rubber industries.

### **Large Markets Available**

A great market awaits the Athabasca bituminous sands development in the matter of paving asphalt and road oil. Alberta alone at the present time has 2,155 miles of gravelled roads for which oil is required, and 20,000 miles of improved roads ready for gravelling and, therefore, prospective for oil. The neighbouring Province of Saskatchewan opens up another extensive field in which the demand for this service is greatly felt. In addition to these two provinces the market may be continually enlarged into other areas.

The product is available and the whole question of its development and distribution must of necessity be governed by economic factors as they exist. Should the demand for asphalt diminish, the McMurray development can concentrate on the maximum development of gasoline. As soon as the asphalt markets

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appear again, the situation can be reversed so as to increase asphalt production and lessen that of gasoline.

#### **Only 300 Miles North of Edmonton**

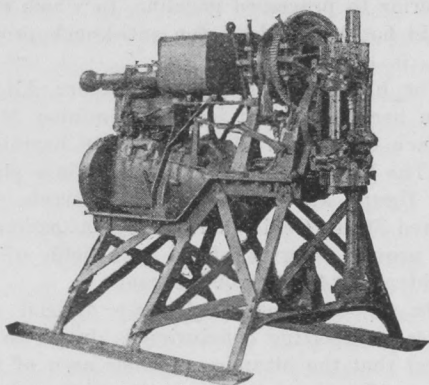
To many people who have never visited McMurray there is an extraordinary belief that the town is situated in the Arctic Circle and that winter operations are impossible.

McMurray is 700 miles south of the Arctic Circle and is approximately in the same latitude as the well-known Flin Flon and Sherritt-Gordon mines, at both of which extensive open-pit mining operations are carried on throughout the entire year.

With the exception of stripping of the overburden being impossible in winter all operations in the McMurray bituminous sands development can be carried on throughout the year. Overburden would be hard to move when frozen and a sufficient quantity would be stripped therefore in the open months and processing operations would continue throughout the winter.

Remarkable features about the asphalt produced at McMurray are its ductility-penetration and ductility-softening point ratios, which compare most favourably with asphalt produced in other parts of the world.

Ductility is the distance in which asphalt will stretch without breaking, measured at a certain standard temperature. Penetration is a measure of hardness, the distance that a needle point of a certain size supporting a certain weight will penetrate within a certain time. The smaller the penetration, the harder



Model 'BBS-1' Surface Diamond Drill  
**BOYLES BROS. DRILLING**  
Co. Ltd.

Kirkland Lake Port Arthur Toronto  
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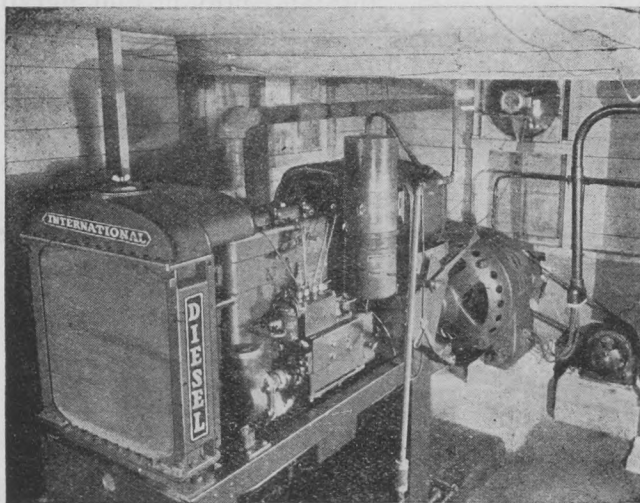
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## CARIBOU MIGRATION

Even the caribou are feeling the effects of northern development. On some of their former ranges along the Arctic coast, they are now missing or only rare, and the migration of the millions of caribou ranging the barren lands is gradually working further south. Within the last few years caribou have been found ranging both in northern Saskatchewan and Manitoba and have also crossed the Slave river and gone south of the Slave River buffalo park into North Eastern Alberta.

## TRUCKING OVER THE GRIMSHAW ROAD

Latest reports state that the Bennett and White freighting swing of trucks and caterpillars are at Fort Resolution which is some 98 miles from the Yellowknife. Extraordinary open weather conditions with lack of snow made trouble for tractor transportation, but such an open winter as that of 1939-40 is exceptional in the North. This winter road which has already proved to be a good investment cost \$46,000 to cut. It is 400 miles long. Of this amount \$41,000 was expended in Alberta with the Dominion Government contributing two thirds of the cost in that province and the whole of the cost for the N. W. T. section.

## OTHER DISCOVERIES IN YELLOWKNIFE

Dr. C. E. Camsell, Dept. Minister of Mines, in commenting upon other discoveries in the northern field enumerates Wray Lk. area. Desperation Lk. Tumpline Lake, Mystery Lake and the Snare River. Indications of tungsten, tin, tantalum, lithium and beryllium have been found by field officers of the Dominion Dept. of mines and resources. That at Outpost Island on Great Slave Lake, showed in addition to its gold content, 1.18% of tungsten oxide and .20% tin.



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## ALASKA HIGHWAY

The Seattle Times recently went after the **Nor West Miner** because it dared to suggest to its readers that the Alaska Highway should be built through the middle west, instead of along the Pacific Coast, and also for the further temerity of expecting Uncle Sam to pay for it. The Seattle Times says Edmonton is 1000 miles inland from the coastal frontier. When we went to school—the air line distance between the Pacific and Edmonton was around 600 miles. As one goes further North, this distance gets still less. Stewart B.C. head of Portland Canal is less than 400 miles from the Peace River Country. However we still reiterate that the logical route for the Alaska Highway, if and when built is through Edmonton and thence North west to Alaska. Many others, especially at Washington and Ottawa think the same. Who will pay for it is another matter, but if Uncle Sam waits until Canada pays for it, it will be a long time building as Canada has a major war on its hands.

Just a note to the effect that gypsum production in Canada totalled 907,130 tons in first nine months of 1939, an increase of 200,000 tons over the previous year. Alberta has plenty of gypsum along the Peace River waiting for some one to mine it. -

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## ENGINEER FOR BAR BET

Officials of the Bar Bet Mining Development Co., a Yellowknife local company, state that Mr. W. L. McDonald is to be its consulting engineer. Mr. McDonald is a well known mining engineer formerly with the Cons Mining and Smelting Co. He is now practicing privately in the northern mining areas. He forecasts good prospects of new mining companies from the United States entering the northern areas. One company mentioned is the Amparo Mining Co. of Philadelphia, Pa. The Amparo Mining Company is capitalized at \$1,000,000, its capital having been reduced from \$3,000,000 in 1907. It had been operating in Mexico since 1924 and also holds properties in Colorado. It is stated the Company is sending staff North to look over likely gold properties in the Yellowknife.

## "DOWN NORTH"

Deco Trefoil, the house magazine of the Denver Equipment Company of Denver Colo., manufacturers of mining and mill flotation machinery, in its April issue publishes a splendid story "Down North" on the Mackenzie River. It is well illustrated and gives a good picture of the mining and other development proceeding north of Edmonton. Thanks "Deco" . . .

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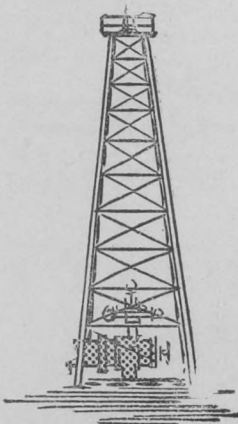
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